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## Terrorist attacks decrease fertility levels, says new research

OXFORD UNIVERSITY PRESS



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A new study published online today in the journal *Oxford Economic Papers* has found that, on average, terrorist attacks decrease fertility, reducing both the expected number of children a woman has over her lifetime and the number of live births occurring during each year.

In recent years, terrorism has grown as a significant factor affecting our lives in unforeseen ways. Much has been written regarding the causes of terrorism, yet the ramifications of prolonged exposure to terrorism are still to be thoroughly studied. This new study, carried out by Dr. Claude Berrebi of the Hebrew University, Jerusalem, and Dr. Jordan Ostwald of the US Air Force, is the first to empirically identify and quantify an effect of terrorism on fertility.

The researchers used a panel data set composed of data on terrorist attacks from 1970-2007, as well as a variety of demographic controls, to implement a robust panel analysis and measure the effects of terrorism on fertility as expressed by Total Fertility Rates (TFR) and Crude Birth Rate (CBR). The data consisted of 170 countries and 5842 individual country-year observations, and after filtering, the set of individual incidents studied was approximately 66,000.

Data on fertility was derived from the World Bank Development Indicators website. TFR represents the expected number of children born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates. CBR is a commonly-used measure of the number of live births occurring during each year, per 1,000 people.

After rigorous analysis through a robust set of model types and specifications, it was found that terrorism is likely to act on

fertility through job uncertainty, psychological stress, wealth uncertainty, and poor health, which can cause significant short-term declines in fertility by affecting related factors such as age at first birth, age at marriage, frequency of sexual intercourse, and labour migration.

Measured by both the number of incidents and the number of deaths, terrorism was shown to exert a statistically significant, negative effect on fertility rates for both TFR and CBR. The results showed a 0.018% decrease in fertility rate observed two years following a one standard deviation increase in terrorist attacks. While this number sounds small, it means that in an average population where terrorism increased by one standard deviation, for every 1 million women, 18,000 fewer children will be born over a lifetime.

Dr. Berrebi said: "Besides illuminating another far-reaching effect of terrorism, the relationship between terrorism and fertility will be critical to understand when policy makers attempt to deal with other demographic transitions and security concerns.

"How societies act in response to the perception of threat from terrorist groups has far reaching implications. Rather than demographic change being the root cause of terrorism, using sophisticated empirical analysis, we were able to identify causal effects of terrorism on larger-scale demographic transitions. Our findings explain some of the disparities between previous theories and results and put to rest some notions suggesting reverse directionality."


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#### Media Contact

Kirsty Doole  
[kirsty.doole@oup.com](mailto:kirsty.doole@oup.com)  
44-186-535-5439

 [@OxfordJournals](#)  
<http://www3.oup.co.uk/jnls> 

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